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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

| EXAMINER |
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TARAE, CATHERINE MICHELLE

| ART UNIT | PAPER NUMBER |
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3623

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,658

Applicant(s)

BEYER ET AL.

Examiner

C. Michelle Tarae

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a Final Office Action in response to the communication received on September 11, 2006.

Claims 13 and 14 have been amended. Claim 20 has been added. Claims 1-20 are now pending in this application.

Response to Amendment

2. Applicant's amendments to claims 13 and 14 are acknowledged.

Response to Arguments

3. Applicant's arguments have been fully considered, but are found unpersuasive. In the Remarks, Applicant argues that Clarke does not teach or suggest segmenting and separating the same customers twice as recited in claim 1.

In response to the argument, Examiner respectfully disagrees. In col. 2, lines 20-40, Clarke discloses a product promotion coupon system that identifies a group of consumers to advertise coupons to, where the consumers are identified as responsive consumers, or consumers who share a common response to the advertised coupons. Thus, Clarke does segment customers into groups of customers having a certain response to a promotion, where the promotion is an advertisement offering product coupons. In col. 2, line 65-col. 3, line 10, Clarke then discloses monitoring the coupon redemption rate to identify which consumers who were offered the coupon promotion, actually redeemed the coupons as well as those who did not redeem the coupons,

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thereby grouping customers who shared the same response to the coupon promotions.

Thus, Clarke does separate the customers into groups of customers that share the same response to the coupon promotions.

Therefore, Applicant's arguments have been fully considered, but are found unpersuasive.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 5-7, 11-16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke (U.S. 5,502,636).

As per claim 1, Clarke discloses a computer readable medium having instructions for causing a computer to execute a method for segmenting customers by promotion, said method comprising:

segmenting each customer in a plurality of customers into a segment in a plurality of segments for each promotion in a plurality of promotions, such that for a promotion there is a corresponding set of segments, wherein each segment in said set of segments represents a first respective group of customers having a certain response to said promotion (col. 2, lines 20-23 and 33-47; col. 3, line 66-col. 4, line 7; Customers

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are initially identified, or grouped, based on their response to an advertisement, where the response is a request for certain coupons.); and

separating, based on responses to said plurality of promotions, said plurality of customers into a plurality of meta-segments, wherein each meta-segment in said plurality of meta-segments represents a second respective group of customers sharing a same response to all promotions in said plurality of promotions (col. 2, line 65-col. 3, line 6; col. 4, lines 26-32; Customers are identified, or grouped, again based on their redemption or non-redemption of the coupons they requested.).

While Clarke does not expressly disclose using the plurality of meta-segments to design a promotional campaign, Clarke does disclose using the meta-segments to conduct future marketing research and enhance future specific coupon databases, where the coupon databases include consumer profiles associated with the coupons they have or have not redeemed (col. 1, lines 46-50; col. 3, lines 6-8 and 13-21). It is old and well known in the art to use customer responses to promotions as a basis for conducting future promotions. For example, a customer who has redeemed a particular coupon over and over in the past, is likely to redeem the coupon in the future, and will therefore, most likely be included in future promotions that include receiving that particular coupon. Thus, the marketing research and enhanced customer and coupon databases that Clarke develops based on the meta-segments, which are based on responses to coupon promotions, may be used to design promotional campaigns. At the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to use the meta-segments to design a promotional

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campaign because the meta-segments represent customers that have been identified with specific behavioral characteristics related to the redemption of certain coupons, thereby providing a specific target audience shown to have a favorable response to certain coupons, thereby enhancing the effectiveness of the promotion as disclosed in Clarke (col. 1, lines 22-25).

As per claim 5, Clarke does not expressly disclose segmenting each customer by using a segmentation method selected from the group of CART, k-means, k-harmonic means and clustering. However, clustering is old and well known in the art of database mining to group records that share a common characteristic. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to utilize a well known segmentation method such as clustering to segment customers as clustering is known in the art to effectively and accurately group records that share a common characteristic, which is beneficial to the system of Clarke, which requires grouping customers who share the same response to a promotion.

As per claim 6, Clarke does not expressly disclose associating with each customer a vector representing a combination of a segment and a promotion. However, vector analysis is old and well known in the art of multidimensional optimization of marketing campaigns, where a vector may represent the columns and rows of a matrix, thereby providing the benefit of a multidimensional representation of correlated data with which to create clusters or groupings of similar data (such as customers with similar characteristics). Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to utilize vector

analysis to associate with each customer a segment and a promotion as vector analysis is known for facilitating the correlating of data in an effective and efficient fashion.

As per claim 20, Clarke does not expressly disclose the method as recited in claim 1, wherein customers in a same segment share a common response only to a single promotion while customers in a same meta-segment share a common response to all promotions. However, Clarke does disclose comparing the customers who were provided with the coupon advertisements with the customers who did and did not redeem their coupons and maintaining the comparison information in a redemption and customer profile database, thereby tracking and grouping customers based on a shared response to the coupon promotions (col. 3, lines 4-6 and 16-21). Additionally, it is old and well known in the art of customer marketing to track a customer's response to every promotion offered to the customer in order to understand the customer's interests and develop the customer's profile to better tailor future promotions to the customer, which will ultimately increase positive responses to the promotions from the customer (Clarke, col. 3, lines 19-27). Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Clarke to have customers in a same segment share a common response only to a single promotion while customers in a same meta-segment share a common response to all promotions because grouping customers into groups based on their response to every promotion enables a business to understand the customer's interests in greater detail and develop the customer's profile to better customize future promotions to the customer, thereby ultimately increasing the positive response rate of the promotions from the customer.

Claims 7, 11-16 recite substantially similar subject matter to claims 1, 5-6 and 20 above. Therefore, claims 7, 11-16 are rejected based on the same analysis of claims 1, 5-6 and 20 above.

6. Claims 2-4, 8-10 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clarke (U.S. 5,502,636) as applied above, and Dinerstein (U.S. 4,872,113).

As per claim 2, Clarke does not expressly disclose the method as recited in claim 1, comprising specifying a number of meta-segments based on customer demographics, wherein said customer demographics define characteristics of said plurality of customers. Dinerstein discloses identifying which groups of customers, based on demographics, responded favorably or unfavorably to a given advertisement or promotion (col. 3, lines 14-18). Clarke and Dinerstein are analogous art in that each discusses creating a target audience based on customer responses to promotions in order to improve the effectiveness of the promotion (Clarke: col. 1, lines 22-25; Dinerstein: col. 3, lines 18-20). Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to specify the meta-segments based on customer demographics because doing so provides additional information about the customers, thereby enabling more comprehensive targeting of customers for promotions and analysis of promotions (Dinerstein: col. 3, lines 18-20 and 47-50).

As per claim 3, neither Clarke nor Dinerstein expressly discloses maximizing the number of customers represented by meta-segments. However, it is old and well known in the art of promotions and advertising to maximize the number of customers a promotion or advertisement is directed to because doing so increases the rate of favorable responses to the promotion or advertisement. For example, the rate of favorable responses will likely increase for a promotion directed to a target audience of 10,000 customers compared to a target audience of 100 customers. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art for the system of Clarke to maximize the number of customers represented by meta-segments as doing so increases the effectiveness of the promotion because of the increase in target audience the promotion is directed to.

As per claim 4, Clarke discloses executing an algorithm for determining a number of customers in each meta-segment to receive a particular promotion (col. 2, line 65-col. 3, line 6; col. 3, lines 16-21; Figure 1; Redemption data is collected and collated using a redemption database, where a comparison is made with a customer profile database to identify who redeemed and who did not redeem coupons, thereby creating the meta-segments. As an algorithm is nothing more than a procedure for doing something, the system uses an algorithm to create the meta-segments by employing a computer and databases to interact electronically to receive, collate and analyze data in order to identify the redemption behavior of customers.).

Claims 8-10 and 17-19 recite substantially similar subject matter to claims 2-4 above. Therefore, claims 8-10 and 17-19 are rejected based on the same analysis of claims 2-4 above.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Koshiha et al. (U.S. 6,098,052) discusses a collection strategy model;
- Boyd et al. (U.S. 6,963,854) discusses a target pricing system;

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- Herz et al. (U.S. 6,571,279) discusses a location enhanced delivery system;
- Blume et al. (U.S. 6,839,682) discusses a predictive modeling of consumer behavior using consumer segmenting; and
- Anderson et al. (U.S. 5,974,396) discusses a system for gathering and analyzing customer purchasing information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Michelle Tarae whose telephone number is 571-272-6727. The examiner can normally be reached Monday – Friday from 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached at 571-272-6729.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



C. Michelle Tarae
Patent Examiner
Art Unit 3623

November 27, 2006